THE SALDIDAE OF NEVADA[1]

(Hemiptera)

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Little collecting of aquatic and semi-aquatic Hemiptera has been done in Nevada and the netting of saldids represents no exception. Only 10 species of saldids have been reported heretofore from the State (Drake, 1950; Drake & Hoberlandt, 1950; Drake & Hottes, 1950, 1955). Usinger (1956) presented keys and some general distribution records for the saldids of California. Many of these species also occur in Nevada.

The paucity of information on the ecology, seasonal occurence, and associated species in the above papers is quite evident. The most common forms in Nevada are found along the damp margins of most bodies of water, including streams, lakes, irrigation ditches, ponds, and other areas with either alkaline or fresh water. Some species apparently prefer or tolerate principally salt and alkaline situations; others are saxicoline, or prefer semiumbrous areas, or are found mostly in the mountains.

The species differ greatly in their agility, secretiveness, and abundance. Very agile species can often be collected more readily and in better condition by use of an atomizer containing a contact immobilizing agent such as ethyl acetate or carbon tetrachloride.

The writer collected about 1,700 saldids in Nevada from 1958-61, which represented 21 species and one variety. Observations on the distribution, habitats, associated species, seasonal occurrence, and separation from their congeners are presented below. Two species (*Saldula arenicola* and *S. teretis*), recorded from Nevada, were not netted by the writer, but since they have been listed in the literature, are added for completeness. Keys to genera and species inhabiting Nevada also have been formulated.

The valleys in the northern and central areas of the State range from about 4,300 to 6,000 feet in elevation, whereas those in the southern portion have an elevation of around 500 feet. The remarks on taxonomy and the characters used in the keys pertain only to Nevada material and may or may not apply to specimens from areas where some different species are found.

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[1] In cooperation with the Nevada Agricultural Experiment Station, Reno, Nevada.

KEY TO THE GENERA OF SALDIDAE OCCURRING IN NEVADA[2]

1. First or inner cell of membrane produced forward two-fifths or one-half its length beyond the base of second cell ..... *Salda* Fabricus
   First or inner cell not produced or at most only slightly extended forward beyond the base of the second cell 2
2. Antennae relatively thick, the third and fourth segments thicker than apex of second ..... *Ioscytus* Reuter
   Antennae relatively slender, the third and fourth segments not thicker than apex of second segment 3
3. Corium with two distinct veins, the branches of inner vein forked apically and extending to membrane ..... *Saldula* Van Duzee
   Corium without veins or with median vein not forked apically ..... *Micracanthia* Reuter

GENUS IOSCYTUS REUTER

KEY TO THE NEVADA SPECIES OF IOSCYTUS

1. General dorsal color of hemelytra, especially corium, blackish brown to black ..... *nasti*
   General dorsal color of hemelytra, especially corium, red 2
2. Embolium red to black ..... *politus*
   Entire embolium yellow to white ..... *politus* var. *flavicosta*

IOSCYTUS NASTI Drake and Hottes

Ioscytus nasti Drake and Hottes, Bol. Ent. Venez., XI (1 & 2) :3-4, 1955.

This species was previously known only from a few specimens collected in California. The writer found it to be quite common in the Sierra Nevada Mountains at elevations ranging from 6,300-7,700 feet in both open and partially shaded damp areas adjacent to mountain streams, flooded mountain meadows, and mountain ponds.

Associated species were *Saldula explanata, S. comatula,* and *Salda buenoi.*

The dark color of the dorsal surface easily separates it from the prominent, reddish, hemelytral markings of *politus* and its variety *flavicosta.*

Seventy-six specimens collected from March-September: Mt. Rose, Lake Tahoe, and Zephyr Cove.

IOSCYTUS POLITUS (Uhler)

Salda politus Uhler, Bul. U. S. Geo. Surv., 3:441, 1877.

This is a very common species along the damp margins of alkaline seep ponds, alkaline lakes, irrigation streams, temporary and permanent ponds, fresh-water spring-seeps, foothill streams,

[2]Adapted after Reuter (1912).

and hot springs. It seems to prefer unshaded habitats at elevations ranging from 4,300-5,000 feet and companion species were *Saldula pallipes*, *S. ourayi*, *S. comatula*, *Micracanthia quadrimaculata*, and *M. utahensis*. I did not collect *politus* in the southern portion of the State, although it should occur there.

The colors (red and black) of the embolium and corium are quite variable in relation to each other and thus some specimens almost grade into the variety *flavicosta*.

Seventy specimens collected from March-November: Carson City, Fallon, Fernley, Reno, Soda Lake, and Virginia City.

IOSCYTUS POLITUS *var.* FLAVICOSTA (Reuter)

Salda politus variety *flavicosta* Reuter, Ofv. Finska Vet.-Soc. Forh., III, Afd. A (12):21, 1912.

This is a new State record since this variety was previously known only from Utah and California. I collected it only in the southern part of the State where its habitats were damp areas adjacent to rivers and fresh-water springs. It was associated with *Saldula andrei* and *S. orbiculata*.

The yellow to white embolium is diagnostic.

Fourteen specimens collected in July: Ash Meadows (Amargosa Desert) and Mesquite (Virgin River).

GENUS MICRACANTHIA REUTER

KEY TO THE NEVADA SPECIES OF MICRACANTHIA

1. Outer embolium of hemelytra entirely pale; femur pale .....*utahensis*
   Outer embolium of hemelytra mostly dark, except where interrupted by two pale spots; femur dark.....*quadrimaculata*

MICRACANTHIA QUADRIMACULATA (Champion)

Salda quadrimaculata Champion, Biol. Centr.-Amer. Rhynch., 2:399, 342, 1900.

This species is very common and occupies a great variety of habitats. It was collected from the valleys to 8,500 feet in the Sierra Nevada Mountains. Habitats were damp areas adjacent to foothill streams, ponds, irrigation ditches and seep areas, irrigated meadows, hot springs, fresh-water springs, streams, lakes, and alkaline sink areas. It apparently does not prefer alkaline situations. Companion species were usually *Ioscytus politus*, *Saldula pallipes*, and *S. comatula*.

The silver pubescence and four-spotted appearance of the hemelytra plus the less shiny dorsal aspect of the thorax and scutellum easily separate *quadrimaculata* from *utahensis*. *M. pusilla* Van Duzee is a synonym of *quadrimaculata*.

Eighty-four specimens noted from February-November: Carson City, Dayton, Fernley, Fallon, Mt. Rose, Reno, and Schurz.

MICRACANTHIA UTAHENSIS Drake and Hottes

Micracanthia utahensis Drake and Hottes, Bol. Ent. Venez. XI (1 & 2): 1-3, 1955.

This species was heretofore known only from Utah. I collected it in Nevada along the damp areas in thick salt grass adjacent to a hot spring. A single specimen was also taken from the damp margin of an irrigation ditch, again in thick vegetation. Later visits to these areas during the past several years have yielded no specimens of this species. Adults are not prone to move readily and when once seen, are more easily collected than many saldids. Associated species were *M. quadrimaculata* and *Ioscytus politus*.

The pale outer embolar area, pale femur, and very large eyes are distinctive to *utahensis*.

Thirty-four specimens noted in July-September: Reno and Reno Hot Springs.

GENUS SALDA FABRICIUS

KEY TO THE NEVADA SPECIES OF SALDA

1. Entire dorsal surface, excepting membrane, shining, clothed with thinly scattered minute, reclining, grey, pubescence....*obscura*
   Entire dorsal surface, excepting membrane, dull, with very abundant, very short, reclining, brownish pubescence .....*buenoi*

SALDA BUENOI (McDunnough)

Saldula buenoi McDunnough, Can. Ent. 57:259, 1925.

This species was collected both in the valleys and at elevations up to 8,700 feet in the Sierra Nevada Mountains. Brachypterous specimens were often noted. Habitats consisted of damp areas adjacent to irrigation streams and their seep areas and mountain meadow ponds and streams, with sparse to fairly thick vegetation. Associated species at high and low elevations were *Saldula explanata* and *Ioscytus politus,* respectively.

The abundant brown pubescence delimits *buenoi* from *obscura.*

One hundred specimens collected from July-September: Fallon, Mt. Rose, and Reno.

SALDA OBSCURA (Provancher)

Scrodopterus obscura Provancher. Nat. Can. 4:107, 1872.

This is the first record of *obscura* in the State. It was found in an open, damp mountain seep area at about 8,000 feet in the

Ruby Mountains. The specimen was brachypterous and very small (4.2 mm). A companion species was *Saldula explanata.*

The status of *obscura* was questioned by Drake and Hottes (1950) but is now considered valid by them (personal correspondence from Dr. Drake). The writer has seen specimens from Oregon and collected specimens from Granby, Colorado, VI-28-58. All of this material appears to be typical *obscura* and thus quite distinct from *Salda littoralis, buenoi,* and *bouchervillei.* Although both *obscura* and *bouchervillei* have a very shining black dorsal aspect, the latter species is larger and there are some differences in pubescence and genital structure. Color is variable. Although these two species are distinct from each other, the types need to be studied as the original descriptions will not separate them.

One specimen collected in June: Lamoille Canyon.

GENUS SALDULA VAN DUZEE

Key to the Nevada Species of Saldula

1. Dorsal vestiture of thorax and hemelytra with many long, dark, erect hairs 2
   Dorsal surface of thorax and hemelytra smooth or with only short pubescence, sometimes appressed 5
2. Eyes with short hairs ..... *orbiculata*
   Eyes naked 3
3. Hemelytra often pale except for dark transverse band at middle; dorsal surface very shiny; narrowest portion of vertex and one eye shorter than second antennal segment ..... *andrei*
   Hemelytra pale or dark but without dark transverse band at middle; dorsal surface not especially shiny; narrowest portion of vertex and one eye equal to or greater than second antennal segment 4
4. Dorsal appearance shaggy, due to long, coarse, abundant pubescence, especially evident towards the side margins of pronotum; larger species; pubescence on hind tibia longer than width of segment ..... *comatula*
   Dorsal appearance less shaggy due to shorter, finer, and much less abundant pubescence; smaller species; pubescence on hind tibia not very noticeable, much shorter than width of segment ..... *hirsuta*
5. Sides of pronotum pale 6
   Sides of pronotum concolorous with pronotum, without pale areas 8
6. Pronotum with a pale lateral stripe on each side 7
   Pronotum pale except for median portion ..... *balli*
7. Pale lateral stripe of pronotum narrower than the width of antennal segment and terminating before apical and

basal margins ..... *coxalis*
Pale lateral stripe of pronotum much wider than width of antennal segment and usually reaching base and apex of pronotum ..... *opiparia*

8. Fore tibia with frontal, fuscous stripe interrupted near middle or with fuscous marking only at base 9
Fore tibia with frontal, fuscous stripe uninterrupted, extending to near apex. 13
9. Fore tibia with fuscous marking at base only 10
Fore tibia with fuscous stripe interrupted near middle 12
10. Larger species, length usually much greater than 4.4 mm; leading margin of xyphus of metasternum luteus and not concolorous with rest of metasternum; antennal segment two almost twice the length of segment three ..... *palustris*
Smaller species, generally much less than 4.2 mm; leading margins of xyphus of metasternum dark and concolorous with metasternum; antennal segment two much less than twice the length of segment three 11
11. Length less than 3 mm; side margins of pronotum straight ..... *teretis*
Length greater than 3 mm; side margins of pronotum curved ..... *opacula*
12. Pale marginal mark before middle of hemelytra forming a "C" ..... *c-album*
Pale marginal mark before middle of hemelytra not forming a distinct "C" ..... *saltatoria*
13. Narrowest portion of vertex and one eye shorter than second antennal segment ..... *nigrita*
Narrowest portion of vertex and one eye longer than second antennal segment 14
14. Side margins of pronotum very explanate ..... *explanata*
Side margins of pronotum not especially explanate 15
15. Labrum entirely fuscous; membrane dark, smoky, and opaque with few or no pale spots ..... *ourayi*
Labrum all or in part pale; membrane usually pale with dark spots 16
16. Corium dull with gray pubescence; pale areas of hemelytra when present, tending to form a transverse band, not especially interrupted with fuscous ..... *arenicola*
Corium glabrous with gold to black pubescence; pale areas of hemelytra when present, not forming a marked transverse band but interspaced with fuscous ..... *pallipes*

SALDULA ANDREI Drake

Saldula andrei Drake, Ark. Zool., 42B:3. 1949.

This rock-inhabiting species is known from many of the western States. It was quite common along the open damp margin of a lake and a few specimens were noted along the damp edge of

a river in the southern part of the State. Associated species were *Saldula balli* and *Ioscytus politus* var. *flavicosta*.

The antennal formula and shining dorsal appearance with the dark median hemelytral band are diagnostic. *Saldula laviniae* (Hodgden) is a synonym of *andrei*.

Sixteen specimens collected in July: Lake Mohave (Cottonwood Grove) and Mesquite (Virgin River).

Saldula arenicola (Scholtz)

Salda arenicola Scholtz, Arb. u. verand. Schlis. Ges:6, 1846.

This species was not collected by the writer but has been reported from Nevada and most of the Western States by Drake and Hottes (1955). According to the literature, it apparently prefers saline or alkaline situations, although it was never found in many collections from alkaline areas.

The characters used in the key will usually separate *arenicola* from *pallipes*. *Saldula ourayi* is a much smaller species with the labrum usually completely dark. *Saldula dispersa* (Uhler) is a synonym of *arenicola*.

Saldula balli Drake

Saldula balli Drake, Bull. Brook. Ent. Soc. XLV: 6, 1950.

This species is reported from Utah, Colorado, Arizona, and New Mexico (Drake and Hoberlandt, 1950). The damp margin of a lake yielded this new Nevadan record. *Saldula andrei* was a companion species.

The small size, almost completely pale pronotum, and general pale color are distinctive. It is a very active and easily disturbed species.

One specimen collected in July: Lake Mohave (Cottonwood Grove).

Saldula c-album (Fieber)

Salda c-album Fieber, Wien. Ent. Mon., 3:256, 1859.

In the West this species is recorded from Utah, Colorado, and California (Drake and Hottes, 1950). A few specimens were taken in shaded fresh-water seep areas at 6,400 feet in the Sierra Nevada Mountains and this is a new record for the State. *S. saltatoria* was an associated species.

The fore-tibial marking, somewhat orbiculate shape, presence of bluish areas in corium, and distinctive "C" marking on the hemelytra differentiate this species from its congeners.

Two specimens collected in March and April: Glenbrook (Lake Tahoe).

SALDULA COMATULA Parshley

Saldula comatula Parshley, Proc. B. C. Ent. Soc., 18:13-24, 1922.

This hairy species is known from most of the Western States except Nevada. The writer found it distributed in the valleys to 7,500 feet in the Sierra Nevada Mountains. Habitats were damp areas adjacent to hot springs, fresh-water spring seeps, lakes, irrigation seep areas, alkaline sinks, irrigated meadows, rocks in a river, and mountain meadow ponds. Associated species were *Saldula pallipes, S. palustris, S. opiparia,* and *Micracanthia quadrimaculata.*

The shaggy appearance due to the very abundant long, erect, dark, dorsal vestiture of hairs, the very hairy legs, and the large, broad size are diagnostic. This species ranges in color from mostly pale to almost solid black.

One hundred sixty-five specimens collected from March-November: Carson City, Ely, Fernley, Fallon, Lake Tahoe, Lahontan Reservoir, Mt. Rose, Reno, Schurz, and Topaz Lake.

SALDULA COXALIS (Stål)

Salda coxalis Stål, Svensk, Vet.-Ak. Handl. 11(2):140, 1873.

This species is known from most of the Western States including a record from Deeth, Nevada (Drake, 1950). It ranges from Argentina and Chile north into British Columbia. The writer collected two examples of it along the damp margins of an alkaline pool and an impounded area. Associated species were *S. opiparia, S. pallipes,* and *S. palustris.*

The narrow, short, pale, lateral stripe of pronotum delimits *coxalis* from related species. Occasional specimens may have this dorsal lateral stripe almost obliterated but a ventral view will show its presence. *Saldula argentina* (Berg) is a synonym of *coxalis.*

Two specimens collected in April and May: Gerlach and Golconda.

SALDULA EXPLANATA (Uhler)

Salda explanata Uhler, Proc. Ent. Soc. Wash.: 383, 1893.

This species appears to be restricted to the mountains where it was collected on damp areas adjacent to open mountain meadow ponds and streams, mountain springs, and on logs in a mountain

meadow pond. It was found from 6,000 to 8,700 feet in both the Ruby and Sierra Nevada Mountains. Associated species were *Saldula pallipes, Salda buenoi,* and *Ioscytus nasti.*

All specimens of *explanata* possessed the large explanate side margins of the pronotum. The species is very closely allied to *pallipes* and at times difficult to separate from it.

One hundred seventy-five specimens collected from March-October: Glenbrook, Lake Tahoe, Lamoille Canyon, Mt. Rose, Reno, and Verdi.

SALDULA HIRSUTA (Reuter)

Acanthia hirsuta Reuter, Rev. de Ent. VII:60, 1888.

Specimens were noted on open damp shores of a fresh-water spring and a shaded pool under a bridge in the southern part of the State. This is the first record of *hirsuta* in the State. An associated species was *Microvelia beameri* McKinstry.

The smaller size, shorter, sparser vestiture of dark, erect hairs separate it from *S. comatula,* and the less shining appearance and antennal formula from *S. andrei.*

Seven specimens collected in June: Ash Springs and Caliente.

SALDULA NIGRITA Parshley

Saldula nigrita Parshley, Proc. B. C. Ent. Soc., 18:13-24, 1922.

Specimens were collected only on rocks in rivers and on their shores and have not heretofore been reported from the State. Associated species were *Saldula pallipes* and *S. comatula.*

The long second antennal segment, large size, and dark coloring of *nigrita* easily separate it from other species.

Forty-one specimens collected from July-October: Fallon, Gardnerville (Carson River), and Reno (Truckee River).

SALDULA OPACULA (Zetterstedt)

Salda opacula Zetterstedt, Ins. Lapp. Column: 268, 1840.

This truly bog-inhabiting species is widely distributed in the United States and is known in the Western States from Colorado, Oregon, and Utah. It was collected for the first time in Nevada from a partially shaded damp margin of a fresh-water spring seep area at 6,400 feet in the Sierra Nevada Mountains. *S. saltatoria* was a companion species.

The pale outer corium and tibia, usually marked fuscous only at the base, delimits this species.

One specimen collected in March: Glenbrook (Lake Tahoe).

SALDULA OPIPARIA Drake and Hottes

Saldula opiparia Drake and Hottes, Bol. Ent. Venez., XI(1 & 2):9, 1955

This species is widely distributed throughout the Western States (Drake and Hottes, 1955). The writer found it along the open damp margin of fresh water and especially alkaline lakes, fresh-water seepage areas, hot springs, alkaline sink areas, and on rocks in a river. The preferred habitats appear to be those associated with alkalinity. Companion species were *S. pallipes*, *S. comatula*, *S. palustris*, and *S. ourayi*.

The large size and much broader pale lateral stripe on each side of the pronotum will generally separate *opiparia* from *coxalis*.

Eighty-six specimens collected from June-August: Fallon, Fernley, Golconda, Lahontan Reservoir, Pyramid Lake, Soda Lake, and Reno.

SALDULA ORBICULATA (Uhler)

Salda orbiculata Uhler, Bull. U. S. Geol. Surv. 450, 1877.

Emergent vegetation in a fresh-water spring in the Amargosa Desert yielded the only record of this species in the State. It is widely distributed in the Western States. *Hebrus sobrinus* Uhler and *Merragata hebroides* White were associated species. *Ioscytus politus* var. *flavicosta* was present on adjacent damp shores.

These Nevada specimens differ somewhat from specimens of *orbiculata* from other parts of the country but apparently fall within the limits of variation and were identified as *orbiculata* by Carl J. Drake.

The presence of short hairs on the eyes and pruinose areas on the hemelytra differentiate *orbiculata* from our other species. *Saldula severini* Harris and *Salda opacipennis* Champion are synonyms.

Four specimens collected in July: Amargosa Desert (Ash Meadows).

SALDULA OURAYI Drake and Hottes

Saldula ourayi Drake and Hottes, Proc. Bio. Soc. Wash. 62:179, 1949.

Drake and Hottes reported this species in the West from California, Colorado, Idaho, Washington, Wyoming, and Utah. This is the first record of it in Nevada. It was collected along the damp shores of highly alkaline lakes and ponds. In late summer when the water level of Soda Lake receded, it was possible to collect specimens of *ourayi* in large "balls" which occurred

beneath clumps of saltgrass and objects close to the water's edge. A "ball" contained many thousand specimens consisting mostly of adults but with many nymphs of various instars. These clumps of grass and other objects represented the only possible sources of protection in this area.

A very large supply of food must be available to support such a tremendous population of this predaceous species. It is quite probable that a stage of an ephydrid fly (*Paracoenia bisetosa* (Coq.)[3] which inhabits Soda Lake and also reaches astronomical numbers, serves as a source of food for *ourayi*. Only a few specimens of *Saldula pallipes*, *S. palustris*, *S. opiparia*, and *Ioscytus politus* were noted in conjunction with *ourayi*.

The small size, fuscous labrum, and dark, smoky, nontransparent membrane (usually without pale spots) separate *ourayi* from its congeners. The coloration of the hemelytra is a very variable character in this species. In a large series, specimens vary from almost black to completely pale. An intermediate form with two large flavous areas in each hemelytron, is often present.

Two hundred sixty-five specimens collected every month of the year: Fallon (Soda Lake), Walker Lake, and Hazen.

SALDULA PALUSTRIS (Douglas and Scott)

Salda palustris Douglas and Scott, Ent. Month. Mag., 11:10, 1874.

The writer was only recently informed through personal correspondence with Dr. Drake that this Palearctic species was noted in collections from Alaska and Canada and also occurred in the Western States. It has been confounded in collections with *S. pallipes*. Specimens were collected in the State, principally from the damp shores of alkaline lakes, sink areas, and ponds. Some specimens were also noted from the margin of a fresh-water lake. The pale form appears to predominate in the State. Cobben (1959) states that *palustris* is exclusively halophilous and extremely variable in color in Europe and Asia. Associated species were *Saldula pallipes*, *S. comatula*, and *S. ourayi*.

The larger size and tibial markings differentiate it from *S. pallipes* and *S. opacula*.

One hundred twenty-four specimens collected from May-November: Fallon, Fernley, Golconda, Lahontan Reservoir, Pyramid Lake, Reno, Soda Lake, and Washoe Lake.

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[3] Identified by W. W. Wirth, taxonomist, of this Division.

SALDULA PALLIPES (Fabricius)

Acanthia pallipes Fabricius, Ent. Syst. IV:71, 1794.

This is certainly the most widely distributed saldid in Nevada and the entire Americas. It is a European species. It was observed in a great variety of habitats, which included damp areas adjacent to alkaline and fresh-water lakes, fresh-water and hot springs, alkaline sinks, streams, rivers, reservoirs, ponds, irrigated fields, on rocks in rivers and lakes, and mountain streams and ponds. A few collections were made up to 7,500 feet in the Sierra Nevada Mountains and 8,000 feet in the Ruby Mountains. Associated species were *Saldula ourayi, S. comatula, S. opiparia, S. palustris, Micracanthia quadrimaculata,* and *Ioscytus politus.*

This is an extremely variable species both in color and size and more than one species may be involved. It has many synonyms.

Three hundred twenty-one specimens collected from March-November: Ash Meadows, Ash Springs, Caliente, Dayton, Ely, Fallon, Fernley, Gardnerville, Golconda, Lake Tahoe, Lahontan Reservoir, Lamoille Canyon, Mt. Rose, Pyramid Lake, Reno, Schurz, Topaz Lake, Tule Springs, Unionville, Verdi, Virginia City, and Walker Lake.

SALDULA SALTATORIA (Linnaeus)

Cimex saltatoria Linnaeus, Syst. Nat., 10:448,1758.

This shade-loving species was observed on several occasions in the vicinity of Lake Tahoe at an elevation of 6,400 feet along the damp area of a shaded fresh-water spring seep area. It has a wide distribution in North America and this is the first record of its occurrence in Nevada. *S. opacula* was a companion species.

The tibial and hemelytral markings are distinctive.

Seventy-nine specimens collected March-May: Glenbrook (Lake Tahoe).

SALDULA TERETIS Drake

Saldula teretis Drake, Bull. Brook. Ent. Soc. 45(1):1, 1950.

Drake and Hoberlandt (1950) reported this species from Idaho and Nevada. Nothing is reported on its ecology. It was not collected by the writer.

The straight lateral margins of the pronotum and smaller size separate it from *S. opacula.*

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LIVE BUPRESTIS AURULENTA IN BOARDS OF A HOUSE BUILT IN 1923

(Coleoptera: Buprestidae)

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In January, 1962, Mr. W. Huber submitted pieces of 1-inch by 12-inch Douglas fir boards which were fairly riddled by the borings of *Buprestis aurulenta* Linnaeus larvae (fig. 1). One live larva was found *in situ*, and in the process of breaking up the boards to get them out without damaging the rest of the wall, four dead adults were uncovered.

The boards had been used as external sheathing on part of the west wall of the basement of a house on 39th Avenue, San Francisco; stucco had been applied directly against their outer side. The house was built in 1923 (the builder's permit was still affixed to the adjacent wall) and the original boards were in place.